We claim:

1. A process for preparing mono- or diesters of polytetrahydrofuran or of tetrahydrofuran copolymers by polymerizing tetrahydrofuran in the presence of at least one telogen and/or of a comonomer over an acidic catalyst, wherein the polymerization reactor is started up using a mixture of polytetrahydrofuran, the mono- or diesters of polytetrahydrofuran and/or of the tetrahydrofuran copolymers, tetrahydrofuran, any comonomer and at least one carboxylic acid and/or one carboxylic anhydride.

2. A process as claimed in claim 1, wherein the mono- or diesters of polytetrahydrofuran or of the tetrahydrofuran copolymers or the polytetrahydrofuran used for startup have an average molecular weight M_n of from 650 to 4000.

3. A process as claimed in claim 1 or 2, wherein the concentration of the polymer used for startup is from 20 to 80% by weight, based on the total amount of the mixture used for startup.

4. A process as claimed in any of claims 1 to 3, wherein the mixture used for startup comprises from 7 to 80% by weight of tetrahydrofuran or the total amount of tetrahydrofuran and comonomer, based on the total amount of the mixture used for startup.

5. A process as claimed in any of claims 1 to 4, wherein from 0.5 to 10% by weight of carboxylic anhydride are used for startup, based on the entire amount of the mixture used for startup.

6. A process as claimed in any of claims 1 to 5, wherein acetic anhydride is used.

7. A process as claimed in any of claims 1 to 6, wherein, in addition to the carboxylic anhydride, up to 3% by weight, based on the total amount of the mixture used for startup, of carboxylic acid are used.

8. A process as claimed in any of claims 1 to 7, wherein an inert solvent is added to the mixture used for starting up the polymerization reactor.

We claim:

1. A process for preparing mono- or diesters of polytetrahydrofuran or of tetrahydrofuran copolymers by polymerizing tetrahydrofuran in the presence of at least one telogen and/or of a comonomer over an acidic catalyst, wherein the polymerization reactor is started up using a mixture of the polymer to be prepared by the process, polytetrahydrofuran, the mono- or diesters of polytetrahydrofuran and/or of the tetrahydrofuran copolymers, tetrahydrofuran, any comonomer and at least one carboxylic anhydride.

2. A process as claimed in claim 1, wherein the mono- or diesters of polytetrahydrofuran or of the tetrahydrofuran copolymers or the polytetrahydrofuran used for startup have an average molecular weight M_n of from 650 to 4000.

3. A process as claimed in claim 1 or 2, wherein the concentration of the polymer used for startup is from 20 to 80% by weight, based on the total amount of the mixture used for startup.

4. A process as claimed in any of claims 1 to 3, wherein the mixture used for startup comprises from 7 to 80% by weight of tetrahydrofuran or the total amount of tetrahydrofuran and comonomer, based on the total amount of the mixture used for startup.

5. A process as claimed in any of claims 1 to 4, wherein from 0.5 to 10% by weight of carboxylic anhydride are used for startup, based on the entire amount of the mixture used for startup.

6. A process as claimed in any of claims 1 to 5, wherein acetic anhydride is used.

7. A process as claimed in any of claims 1 to 6, wherein, in addition to the carboxylic anhydride, up to 3% by weight, based on the total amount of the mixture used for startup, of carboxylic acid are used.

8. A process as claimed in any of claims 1 to 7, wherein an inert solvent is added to the mixture used for starting up the polymerization reactor.

Preparation of mono- and diesters of polytetrahydrofuran and of tetrahydrofuran copolymers

Abstract

The present invention provides a process for preparing mono- or diesters of polytetrahydrofuran or of tetrahydrofuran copolymers by polymerizing tetrahydrofuran in the presence of at least one telogen and/or of a comonomer over an acidic catalyst, wherein the polymerization reactor is started up using a mixture of polytetrahydrofuran, the mono- or diesters of polytetrahydrofuran and/or of the THF copolymers, tetrahydrofuran, any comonomer and at least one carboxylic acid and/or one carboxylic anhydride.